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ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/500,900

Applicant(s)

FAUCONNIER ET AL.

Examiner

FRED A. CASCA

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to applicant's amendment filed on November 18, 2009. Claims 1-39 are still pending in the present application. **This Action is Made FINAL.**

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-39 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Independent claims 1, 19 and 32 recites the limitation "indicating to the terminal, from a control facility, the list of shared channel." It is well known in the field of cellular communications that a cell is assigned with sets of frequencies. But it is not clear how the list is transmitted to the terminal that defines the frequencies assigned to a base station. There is insufficient explanation of what a list of shared channels is and how they are indicated to the terminal. The specification does not provide any explanation of how the list indicates to the terminal and how the list represents the shared channels. Without additional guidance, there would be undue experimentation as to how the list of frequencies would be treated.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 1-9 and 14-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Odenwalder et al (US 7167461 B2) in view of Akao (US 7123913 B2) and further in view of Shurvinton et al (US 2004/0102189 A1).

Referring to claim 1, Odenwalder discloses a method of controlling communication channels between a base station and terminals, including channels that are shared by the terminals so as to communicate with said base station and at least one channel of the base station that is dedicated to one of the terminals (abstract and col. 4, lines 50-57, “a traffic channel to be shared”), the method comprising the following steps:

allocating a list of shared channels, to the base station (col. 1, lines 39-65, “cellular system”, “FDMA”, “TDMA”, note a cellular system e.g., TDMA, FDMA, CDMA inherently comprises a set of contiguous cells where each cell has a base station, and each cell is assigned a set of frequencies (e.g., in FDMA and TDMA systems adjacent cells would have different frequencies)) and at the base station level, selecting for the terminal one of the sets of shared channels (col. 1, lines 39-65).

Odenwalder does not specifically disclose indicating to the terminal, from a control facility, the list of shared channels that is allocated to the base station; and at the base station level, selecting for the terminal one of the sets of shared channels and, independently of the control facility, indicating the selected set to the terminal by way of said dedicated channel.

Shurvinton discloses the concept of indicating the frequencies or channels assigned to a base station to a terminal (Par. 4) and selecting for the terminal one of the sets of shared channels and, independently of the control facility, indicating the selected set to the terminal by way of said dedicated channel (Par. 5, 6, 29 and Figures 1-8).

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the method of Odenwalder as claimed for the purpose of providing flexibility to the mobile terminal.

The combination of Odenwalder/Akao does not specifically disclose indicating the selected channel to the terminal by way of a dedicated channel as claimed by applicant.

Kayama discloses indicating selected channels to the terminal by way of a dedicated channel (paragraphs 46 and 65, “base station 1-1 directly notifies the mobile station of information about radio channels assigned by the selected radio base station”).

It would have been obvious to one of the ordinary skills in the art at the time of invention to modify the method of Odenwalder/Akao for the purpose of providing a more efficient communication system.

Referring to claim 2, the combination of Odenwalder/Akao/Shurvinton discloses the method as claimed in claim 1, and further discloses the selection of one of the sets of shared channels for the terminal is made in response to a command for configuration of processing resources in the base station (Odenwalder, col. 1, lines 39-65, note that selection in response is inherent in cellular channel request and channel assignment).

Referring to claim 3, the combination of Odenwalder/Akao/Shurvinton discloses the method as claimed in claim 2, and further disclose processing resources of the base station comprise several modules to which are assigned processings relating to groups of channels respectively associated with said modules, and in which each set of shared channels that is used by the base station is included in the group associated with one of the modules (Odenwalder, col. 1, lines 39-65, "cellular system", "FDMA", "TDMA", col. 4, lines 4-20).

Referring to claim 4, the combination of Odenwalder/Akao/Shurvinton discloses the method as claimed in claim 3, and further discloses the set of shared channels that is indicated to the terminal is selected by the base station in such a way as to form part of the same group of channels, which is associated with one of the modules, as said dedicated channel (Odenwalder, col. 1, lines 39-65, "cellular system", "FDMA", "TDMA", col. 4, lines 4-20).

Referring to claim 5, the combination of Odenwalder/Akao/Shurvinton discloses the method as claimed in claim 4, and further discloses the set of shared channels that is indicated to the terminal is selected by the base station in such a way as to form part of the same group of

channels as each dedicated channel set up with said terminal (Odenwalder, col. 1, lines 39-65, “cellular system”, “FDMA”, “TDMA”, col. 4, lines 4-20, Kayama, paragraphs 46 and 65).

Referring to claim 6, the combination of Odenwalder/Akao/Shurvinton discloses the method as claimed in claim 1 and further disclose the list of shared channels that is allocated to the base station is composed of channels for signaling from the base station to the terminals (Odenwalder, col. 1, lines 39-65, “cellular system”, “FDMA”, “TDMA”, col. 4, lines 4-20).

Referring to claim 7, the combination of Odenwalder/Akao/Shurvinton discloses the method as claimed in claim 6, and further discloses shared channels furthermore comprise at least one channel for traffic from the base station to the terminals, and in which the shared signaling channels of the allocated list are intended to transmit information serving for the reception by the terminals of the traffic carried by the shared traffic channels (Odenwalder, col. 1, lines 39-65, “cellular system”, “FDMA”, “TDMA”, col. 4, lines 4-20).

Referring to claim 8, the combination of Odenwalder/Akao/Shurvinton discloses the method as claimed in claim 1 and further discloses selected set is indicated to the terminal in a redundant manner (Odenwalder, col. 1, lines 39-65).

Referring to claim 9, the combination of Odenwalder/Akao/Shurvinton discloses the method as claimed in claim 1 and further discloses dedicated channel carries a stream of symbols destined for the terminal and in which said selected set is indicated to the terminal by modifying the value of at least one symbol of said stream (Odenwalder, col. 1, lines 39-65, “TDMA”, note that streams of symbols are inherent in digital communications).

Referring to claim 15, the combination of Odenwalder/Akao/Shurvinton discloses the method as claimed in claim 1 and further discloses the sets making up the list of shared channels that is allocated to the base station have the same number of channels (Odenwalder, col. 1, lines 39-65).

Referring to claim 16, the combination of Odenwalder/Akao/Shurvinton discloses the method as claimed in claims 1, and further discloses some at least of the sets making up the list of shared channels that is allocated to the base station have numbers of channels that differ (Odenwalder, col. 1, lines 39-65).

Referring to claim 17, the combination of Odenwalder/Akao/Shurvinton discloses the method as claimed in claim 1 and further discloses the sets making up the list of Shared channels that is allocated to the base station are disjoint (Odenwalder, col. 1, lines 39-65).

Referring to claim 18, the combination of Odenwalder/Akao/Shurvinton discloses the method as claimed claim 1 and further discloses some at least of the sets making up the list of shared channels that is allocated to the base station have channels in common (Odenwalder, col. 1, lines 39-65, "CDMA").

Referring to claim 14 the combination of Odenwalder/Akao/Shurvinton discloses the method as claimed in claim 9.

The combo does not disclose the symbols whose value is modified are transmitted with a greater transmission power than the other symbols of the stream of symbols over said dedicated channel, as claimed.

I would have been an obvious design choice to transmit symbols with modified values with a greater transmission power, since the applicant has not mentioned any purpose for doing so.

Referring to claims 19 and 32, claims 19 and 32 define a mobile communication base station and terminal reciting features analogous to the features of the mobile communication method defined by claims 1 (as rejected above). Thus, the combination of Odenwalder/Akao/Shurvinton discloses all elements of claims 19 and 32 (please see the rejection of claim 1 above).

6. Claim 1-9 and 14-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Odenwalder et al (US 7167461 B2) in view of Akao (US 7123913 B2) and further in view of Kayama et al (US 2003/0017838 A1) and still further in view of well known prior art (MPEP 2144.03) and further in view of Wang et al (US 2002/0034158 A1).

Referring to claims 10,11, and 12, the combination of Odenwalder/Akao/Shurvinton discloses the method as claimed in claim 9.

The combo fails to specifically disclose the concepts of indicating periodically and the interleaving symbols in the format claimed by the applicant.

The applicant takes official notice of the fact that period processes and symbol interleaving are well known in the art.

It would have been obvious to one of the ordinary skills in the art at the time of invention to modify the combo as claimed for the purpose of providing a more efficient communication system.

Referring to claim 13, the combination of Odenwalder/Akao/Shurvinton discloses the method as claimed in claim 12, and further discloses information comprises an identifier of at least one of the shared channels of said selected set (Odenwalder, col. 1, lines 39-65, "CDMA").

Referring to claims 20-31 and 33-39, claims 20-31 and 33-39 define a base station and a mobile communication terminal reciting features analogous to the features of the mobile communication method defined by claims 1-18 (as rejected above). Thus, the combination of Odenwalder/Akao/Shurvinton and well known prior art discloses all elements of claims 20-31 and 33-39 (please see the rejection of claim 1-18 above).

Response to Arguments

7. Applicant's arguments with respect to claims 1-39 have been fully considered but they are not persuasive. Arguments with respect to the rejection of the claims under 35 U.S.C. 112, first paragraph, have been fully considered, but they are not persuasive. In the office action of July 20, 2009, the examiner stated that the limitation, "indicating to the terminal, from a control facility, the list of shared channel," had not been described in the specification, and that the specification does not provide any explanation of how the list indicates to the terminal, e.g., it is not clear if there is direct connection between the mobile terminal and the control facility, or if the list is provided from the control facility via the base station. The examiner asserts that the 112 rejection has not been clearly addressed by the applicant in the reply filed November 18, 2009. The examiner asserts that it is well known in the field of cellular communications that a mobile terminal has a radio interface with the base station, and a base station is connected to a control facility, e.g., BSC or MSC via a wired connection. The applicant's disclosure does not describe how the communication between the mobile terminal and the control facility is taken place. In other words, the specification does not describe if the communication takes place directly between the control facility and the mobile terminal, or if the communication takes place via a base station. The lack of clarifying how this communication takes place is the reason for the enablement rejection issued on July 20, 2009. Since the applicant has not explained how this communication takes place, the rejection of claims under 35 U.S.C. 112, first paragraph is maintained. In response to arguments that Odenwalder does not disclose allocating a list of shared channels, the examiner respectfully disagrees. Odenwalder clearly discloses a cellular

communication system such as FDMA, TDMA. In such cellular system, each cell is allocated a group (list) of reverse link and forward link channels (sets). This allocation of frequencies is inherent in FDMA and TDMA cellular system. In providing evidence that this feature of frequency allocation is inherent, the applicant is referred to chapter 10 of "Wireless Communications and Networks", by William Stallings, ISBN: 0-13-191835-4, and chapter 9 of "Wireless Communications," by Theodore Rappaport, ISBN: 0-13-042232-0, particularly Stallings Chapter 10, section 10.2. Both Stallings and Rappaport teach that in cellular systems, each cell is assigned a chunk of frequency band where this frequency band is divided into multiple sets of channels (e.g., 790 duplex channels for AMPS. See Stallings, page 282, table 10.4). Stallings further teaches that in cellular systems the MTSO (control facility) assigns shared channels (traffic channels) to the base stations. See Stallings Page 270. In response to arguments that Shurvinton does not teach allocation of a list of channels to a base station and then having the base station select from that list, the examiner respectfully disagrees. First, the allocation of frequency bands in cellular systems is inherent in cellular communication systems and has been disclosed above by Oderwalder's teachings of cellular communication systems and the additional evidence and explanations for such limitation being inherent. Further, the assigning of shared channels to mobile stations in the cellular systems disclosed in Shurvinton inherently takes place by the base station since in the above cellular systems of FDMA TDMA, the assignment of channels (frequencies) takes places in a top-down hierarchical system, e.g., the MSC or MTSO assigns channels for the base stations and then the base stations assign channels for the mobile terminals. Arguments with respect to the control facility communicating to the terminal the list of allocated channels have been considered but they are not persuasive. As

mentioned above, the limitation, "indicating to the terminal, from a control facility, the list of shared channel," had not been described in the specification. Thus, in light of the 112 rejection above, the examiner interprets the above limitation as the control facility (e.g., MSC) communicating with the mobile terminal through the base station. And since the MSC communicates to the base station the number of frequencies the base station is assigned and then the base station communicates with the mobile terminal via a control channel (dedicated channel) what frequency the mobile terminal is assigned, thus, the MSC communicates with the mobile terminal about the channel that it is assigned, and a person of ordinary skill in the art would be able to modify the combinations such that the whole list would be communicated to the mobile terminal. The examiner asserts that since communicating from a control facility to a mobile terminal is performed about one channel, thus, it would be obvious to communicate about the complete list of channels as well.

Conclusion

8. **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred A. Casca whose telephone number is (571) 272-7918. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Harper, can be reached at (571) 272-7605. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/VINCENT P. HARPER/

Supervisory Patent Examiner, Art Unit 2617

/Fred A. Casca/

Examiner, Art Unit 2617